

**S5 Table. “Interference ratio”: Measure the influence of recombination in one interval on the map distance of an adjacent interval on chromosome III.**

Genotype	Reference Interval	Test Interval	HIS4- CEN3		CEN3-MAT			MAT-RAD18			RAD18-HMR		
			CEN3- MAT	MAT-RAD18	HIS4-CEN3	MAT-RAD18	RAD18-HMR	HIS4-CEN3	CEN3- MAT	RAD18-HMR	HIS4-CEN3	CEN3- MAT	MAT-RAD18
<b>S. c. ZIP1</b>													
YT131	<i>PD</i>	P:N:T	169:0:86	102:9:141	169:6:159	95:15:227	194:5:138	102:2:83	95:2:90	70:1:116	151:5:134	194:1:96	70:11:210
	<b>cM ± SE</b>		<b>16.9 ±1.5</b>	<b>38.7 ±3.5</b>	<b>29.2 ±2.4</b>	<b>47.0 ±3.2</b>	<b>24.9 ±2.3</b>	<b>25.4 ±2.8</b>	<b>27.3 ±2.8</b>	<b>32.6 ±2.3</b>	<b>28.3 ±2.6</b>	<b>17.5 ±1.7</b>	<b>47.4 ±3.2</b>
	<i>TT+NPD</i>	P:N:T	165:3:68	85:5:142	86:2:69	92:1:61	97:0:57	150:6:141	242:1:61	221:4:79	103:3:93	143:2:55	117:5:78
	<b>cM ± SE</b>		<b>18.2 ±2.6</b>	<b>37.1 ±3.0</b>	<b>25.8 ±3.2</b>	<b>21.8 ±2.7</b>	<b>18.5 ±2.0</b>	<b>29.8 ±2.7</b>	<b>11.0 ±1.5</b>	<b>16.9 ±2.3</b>	<b>27.9 ±3.0</b>	<b>16.8 ±2.6</b>	<b>27.0 ±3.5</b>
	<b>ratio</b>		<b>1.08</b>	<b>0.96</b>	<b>0.88</b>	<b>0.46</b>	<b>0.74</b>	<b>1.17</b>	<b>0.4</b>	<b>0.52</b>	<b>0.99</b>	<b>0.96</b>	<b>0.57</b>
	$X^2 P$		0.11	0.39	0.66	<0.0001	0.2	0.54	<0.0001	<0.0001	0.98	0.30	<0.0001
	Sig. SE (cM)		no	no	no	yes	yes	no	yes	yes	no	no	yes
<b>S.c. ZIP1 msh4</b>													
AM3313	<i>PD</i>	P:N:T	436:2:74	292:12:194	436:2:79	294:10:209	372:5:133	292:2:60	294:3:65	237:5:116	367:1:65	372:1:61	237:11:186
	<b>cM ± SE</b>		<b>8.4 ±1.1</b>	<b>26.7 ±2.2</b>	<b>8.8 ±1.1</b>	<b>26.2 ±2.0</b>	<b>16.0 ±1.6</b>	<b>10.2 ±1.5</b>	<b>11.5 ±1.7</b>	<b>20.4 ±2.2</b>	<b>8.2 ±1.1</b>	<b>7.7 ±1.1</b>	<b>29.0 ±2.4</b>
	<i>TT+NPD</i>	P:N:T	81:1:13	62:0:30	76:1:11	68:2:21	62:2:26	206:1:29	219:0:23	197:2:43	137:2:23	138:1:27	121:1:44
	<b>cM ± SE</b>		<b>10 ±3.5</b>	<b>16.3 ±2.4</b>	<b>9.7 ±3.8</b>	<b>18.1 ±5.0</b>	<b>21.1 ±5.0</b>	<b>7.4 ±1.6</b>	<b>4.8 ±0.9</b>	<b>11.4 ±2.1</b>	<b>10.8 ±2.9</b>	<b>9.9 ±2.3</b>	<b>15.1 ±2.4</b>
	<b>ratio</b>		<b>1.23</b>	<b>0.61</b>	<b>1.1</b>	<b>0.69</b>	<b>1.32</b>	<b>0.73</b>	<b>0.42</b>	<b>0.56</b>	<b>1.32</b>	<b>1.29</b>	<b>0.52</b>
	$X^2 P$		0.69	0.13	0.53	0.01	0.49	0.29	<b>0.005</b>	<b>0.0002</b>	0.30	0.61	<b>0.0002</b>
	Sig. SE (cM)		no	yes	no	no	no	no	yes	yes	no	no	yes
<b>K.I. ZIP1</b>													
YT125	<i>PD</i>	P:N:T	164:3:119	151:3:111	164:7:102	159:4:102	154:4:104	151:1:106	159:7:102	164:3:103	163:7:118	154:7:118	164:4:115
	<b>cM ± SE</b>		<b>24.0 ±2.2</b>	<b>24.3 ±2.4</b>	<b>26.4 ±3.1</b>	<b>23.8 ±2.6</b>	<b>24.4 ±2.6</b>	<b>21.7 ±1.9</b>	<b>26.9 ±3.1</b>	<b>22.4 ±2.3</b>	<b>27.8 ±2.9</b>	<b>28.7 ±3.0</b>	<b>24.6 ±2.4</b>
	<i>TT+NPD</i>	P:N:T	109:5:78	107:3:72	122:1:82	109:2:87	125:3:69	114:5:70	106:2:87	119:4:72	110:1:72	108:2:70	106:2:74
	<b>cM ± SE</b>		<b>28.1 ±3.7</b>	<b>24.7 ±3.2</b>	<b>21.6 ±2.2</b>	<b>25.0 ±2.6</b>	<b>22.1 ±3.0</b>	<b>26.5 ±3.7</b>	<b>25.4 ±2.7</b>	<b>24.6 ±3.3</b>	<b>21.3 ±2.4</b>	<b>22.8 ±2.8</b>	<b>23.6 ±2.8</b>
	<b>ratio</b>		<b>1.17</b>	<b>1.02</b>	<b>0.82</b>	<b>1.05</b>	<b>0.91</b>	<b>1.22</b>	<b>0.94</b>	<b>1.1</b>	<b>0.78</b>	<b>0.79</b>	<b>0.96</b>
	$X^2 P$		0.43	0.81	0.20	0.47	0.59	0.10	0.21	0.70	0.27	0.40	0.96
	Sig. SE (cM)		no	no	no	no	no	no	no	no	no	no	no
<b>K.I. ZIP1 msh4</b>													
	<i>PD</i>	P:N:T	351:10:251	370:15:200	351:8:209	331:13:205	351:11:207	370:8:195	351:15:239	367:9:232	375:10:218	351:14:247	367:18:231
	<b>cM ± SE</b>		<b>25.4 ± 1.7</b>	<b>24.8 ± 2.1</b>	<b>22.6 ± 1.7</b>	<b>25.8 ± 2.1</b>	<b>24.0 ± 1.9</b>	<b>21.2 ± 1.7</b>	<b>27.2 ± 2.0</b>	<b>23.5 ± 1.7</b>	<b>23.1 ± 1.8</b>	<b>27.0 ± 2.0</b>	<b>27.5 ± 2.1</b>
	<i>TT+NPD</i>	P:N:T	217:11:122	202:5:122	261:12:121	254:8:131	261:2:128	215:7:121	218:7:132	249:5:105	225:5:112	218:8:122	241:3:107
	<b>cM ± SE</b>		<b>26.9 ± 2.9</b>	<b>23.1 ± 2.3</b>	<b>24.5 ± 2.7</b>	<b>22.8 ± 2.3</b>	<b>17.9 ± 1.6</b>	<b>23.8 ± 2.5</b>	<b>24.4 ± 2.4</b>	<b>18.8 ± 2.1</b>	<b>20.1 ± 2.2</b>	<b>24.4 ± 2.6</b>	<b>17.8 ± 1.9</b>
	<b>ratio</b>		<b>1.06</b>	<b>0.93</b>	<b>1.08</b>	<b>0.88</b>	<b>0.75</b>	<b>1.12</b>	<b>0.9</b>	<b>0.8</b>	<b>0.87</b>	<b>0.9</b>	<b>0.65</b>
	$X^2 P$		0.07	0.43	0.04	0.40	0.07	0.68	0.61	0.02	0.54	0.26	<b>0.005</b>
	Sig. SE (cM)		no	no	no	no	yes	no	no	no	no	no	yes